

AMENDMENTS TO THE DRAWING

A corrected drawing sheet (1 sheet) is submitted as Attachment A, pursuant to 38 CFR §1.121(d). Please replace the previous drawing with the corrected drawing submitted herein.

The drawing, a single view used in the application to illustrate an embodiment, has been amended so that the drawing is not numbered and the abbreviation "FIG." does not appear. The amended replacement drawing sheet includes the sole figure on the immediate prior version of the sheet. The drawing sheet is labeled in the top margin as "Replacement Sheet" pursuant to 38 CFR §1.121(d).

Applicant believes that no new matter has been added with these amendments.

REMARKS

This reply is in response to the non-final Office Action dated October 2, 2006.

Claims 1-23 are pending in the application.

Claims 19 and 20 have been withdrawn

Election/Restrictions

Applicant hereby withdraws Claims 19 and 20, both of which depend from Claim 18. Upon allowance of Claim 18, Applicant reserves the right to request a rejoinder.

Drawing Objections

The specification and drawing stand objected to under 37 CFR 1.84(u)(1). A corrected drawing is submitted pursuant to 37 CFR §1.121(d). The drawing, a single view used in the application to illustrate an embodiment of the claimed invention, has been amended so that the drawing is not numbered and the abbreviation "FIG." does not appear. The specification has been amended to provide consistent references to the sole figure as "Figure". Applicant believes that no new matter has been added with these amendments. Accordingly, withdrawal of the objections with respect to the drawing and specification is respectfully requested.

Claim Rejections - 35 U.S.C. §103(a)

The Office Action rejected Claims 1-18 and 21-23 under 35 U.S.C. §103(a) as being unpatentable over *Erikstrup* US Patent Number 7,074,347 in view of Applicant's admitted prior art at Paragraph [0003], which states that effluent from a steam reformer is usually converted in shift conversion. Further, the Office Action rejected Claims 1-18 and 21-23 under 35 U.S.C. §103(a) as being unpatentable over *Le Blanc* US Patent Number 5,011,625 or *Burlingame* US Patent Number 6,855,272 in view of the admitted prior art.

By way of background, Applicant's process counterintuitively makes hydrogen with air

12

Response to Office Action dated 10-02-06
Serial Number: 10/708,583

and does not require an air separation unit (ASU) or cryogenic hydrogen recovery. Applicant's process can use "excess air" (defined as an amount of air that yields an H₂:N₂ ratio less than 3, or N₂:H₂ ratio greater than 0.33) so that there is enough combustion heat generated for the reforming exchanger without using oxygen enrichment (See Applicant's Paragraph [0012] and Claims 5 and 6.

For a *prima facie* rejection for obviousness, there must first be some suggestion or motivation, either in the reference itself or in the knowledge generally available to one of ordinary skill in the art, to modify the reference. The prior art reference must also teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and a reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. (See MPEP 2143, citing *In re Vaack*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)).

Erikstrup makes Fischer-Tropsch synthesis gas having an H₂:CO ratio (R) between 1.8 and 2.3 (See *Erikstrup* Column 1, Line 67 through Column 2, Line 8 and Claim 1). To produce Fischer-Tropsch synthesis gas with an H₂:CO ratio (R) between 1.8 and 2.3 requires oxygen enrichment to avoid nitrogen in the process and obtain a mixture of CO and H₂ (See *Erikstrup* Column 7, Lines 61-63). *Erikstrup* would not use shift conversion because the process goal of *Erikstrup* is a mix of CO and H₂, not an H₂ stream that might be used in a refinery for hydrotreating (For example, see *Erikstrup* Column 4, Lines 26-33 and 39-42 with respect to Figure 1 and Column 5, Lines 9-28 with respect to Figure 2). *Erikstrup* does not provide a teaching or suggestion of a separation of an N₂/CO₂ stream and an H₂ stream as required in Applicant's independent Claims 1 and 18. Accordingly, withdrawal of the §103(a) rejection with respect to *Erikstrup* is respectfully requested.

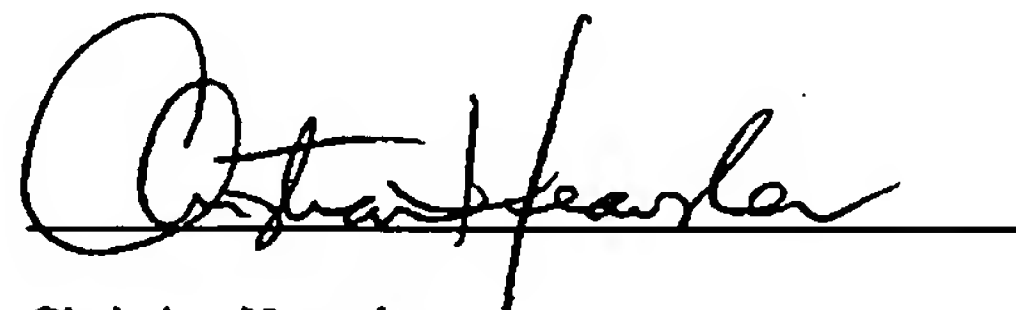
Le Blanc makes ammonia syngas and thus teaches away from the use of *excess* air as necessitating downstream removal of excess nitrogen to achieve the desired H₂/N₂ ratio of 3 in the final synthesis gas (See *Le Blanc* Column 1, Line 49 through Column 2, Line 6). Further, *Le Blanc* does not provide a teaching or suggestion of the separation of an N₂/CO₂ stream and an H₂ stream as required in Applicant's independent Claims 1 and 18. Similar *Le Blanc*, the use of *excess* air as an oxidant is not disclosed or suggested in *Burlingame*, nor does *Burlingame* disclose or suggest the separation of an N₂/CO₂ stream and an H₂ stream. Accordingly, withdrawal of the §103(a) rejection with respect to *Le Blanc* and/or *Burlingame* is respectfully requested.

If the examiner has any questions or comments regarding this communication, the examiner is invited to contact the undersigned directly to expedite the resolution of this application. Further examination of the application and reconsideration of the claims and the allowance thereof are respectfully requested.

Applicant thanks the Examiner for his time on the matter.

Respectfully submitted,

Date: _____



Christian Heausler
Patent Attorney
Reg. No. 50,771

Prepared by Daniel N. Lundeen, Reg. No. 31,177

Reviewed by Christian Heausler, Reg. No. 50,771

Attachments: A – Replacement Sheet